

CLAIMS

1. A stereolithography apparatus, comprising:
a fabrication chamber in which a volume of liquid material is contained; and
a bubble elimination system associated with the fabrication chamber and configured to facilitate the removal of gas bubbles from the volume of liquid material.
2. The stereolithography apparatus of claim 1, wherein the bubble elimination system causes the liquid material to vibrate.
3. The stereolithography apparatus of claim 2, wherein the bubble elimination system is associated with a wall of the fabrication chamber.
4. The stereolithography apparatus of claim 2, wherein the bubble elimination system is associated with a structure located at least partially within the fabrication chamber.
5. The stereolithography apparatus of claim 4, wherein the structure located at least partially within the fabrication chamber comprises a fabrication support.
6. The stereolithography apparatus of claim 2, wherein the bubble elimination system comprises an ultrasonic transducer.
7. The stereolithography apparatus of claim 6, wherein the ultrasonic transducer comprises a piezoelectric transducer.
8. The stereolithography apparatus of claim 1, further comprising:
a negative pressure source for applying a negative pressure to a surface of the volume of liquid material.

9. The stereolithography apparatus of claim 8, wherein the negative pressure source is configured to apply negative pressure sufficient for removing bubbles at or near the surface.

10. A method for removing bubbles from a volume liquid material within a fabrication chamber of a stereolithography apparatus, comprising vibrating the volume of liquid material.

11. The method of claim 10, wherein vibrating the volume of liquid material comprises causing bubbles within the volume of liquid material to dislodge from a surface of the fabrication chamber or from a structure within the fabrication chamber.

12. The method of claim 11, wherein vibrating the volume of liquid material comprises causing the bubbles to float to a surface of the volume of liquid material.

13. The method of claim 10, wherein vibrating the volume of liquid material is indirectly effected.

14. The method of claim 13, wherein vibrating the volume of liquid material comprises vibrating a surface of the fabrication chamber which contacts the volume of liquid material.

15. The method of claim 13, wherein vibrating the volume of liquid material comprises vibrating a structure located at least partially within the volume of liquid material to vibrate.

16. The method of claim 15, wherein causing the structure located at least partially within the volume of liquid material to vibrate comprises causing a fabrication support to vibrate.

17. The method of claim 10, wherein vibrating the volume of liquid material is effected with an ultrasonic transducer.

18. The method of claim 17, wherein vibrating the volume of liquid material is effected with a piezoelectric transducer.

19. The method of claim 10, further comprising applying a negative pressure to a surface of the volume of liquid material.

20. The method of claim 19, wherein applying the negative pressure facilitates removal of bubbles at or near the surface.